

REMARKS

The following remarks are submitted in response to the Office Action of December 17, 2003.

The rejection of claims 12-17 under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention is respectfully traversed. The specification at page 3 lines 13-20 clearly states that the composition of the sample of the present invention approximates the ratios of the plastics found in an average airplane cargo, modified to produce the desired smoke plume. Since the invention is directed to testing smoke detectors to be used in aircraft cargo compartments, this mixture is what is meant by the phrase "a mixture of the types of plastic normally found in the cargo compartment of an airplane". Thus the phrase is not indefinite and it is respectfully requested that the rejection be withdrawn.

The rejection of claims 11-13 under 35 USC 103(a) as being unpatentable over Bute 4,271,643 in view of Spector et al 5,610,359 is respectfully traversed. Spector et al is directed to generating fire-extinguishing smoke, not simulating the smoke which results from a smoldering mass of a particular mixture of plastics. The material to be heated in Spector et al is intended to generate a fire-extinguishing smoke that is ecologically benign so that it can be used as a replacement for the prior art halocarbons that were used as fire extinguishing agents; it requires an external heat source to generate its "smoke".

There is no suggestion in Spector et al to simulate the smoke generated in an airplane cargo compartment fire. The material in Spector et al at column 13 lines 47-52 merely describes the way that a fire in one airplane cargo compartment can trigger the fire-suppression means in an adjoining but separate cargo compartment. Since the smoke generated by the device of Spector et al is a fire-extinguishing agent it would probably not be used to test a smoke detector; smoke used for this purpose would be from ordinary combustible materials.

The fact that the smoke generator of the present invention has a heat source embedded within it rather than a heating coil around it as in Bute is more than a distinction without a difference. When materials are heated as with the heating coil of Bute a char layer forms on the outside. Sometimes this char layer is physically strong enough to remain on the sample, and further to block the heat radiated by the combustion; this causes the sample to be self-extinguishing. With a heating element within the sample this problem is obviated. Thus Spector does not suggest the present sample, and it is respectfully requested that the rejection be withdrawn.

Thus all claims remaining in the case are allowable, and an early and favorable action is solicited.

Respectfully submitted,



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